

**CSCAPE 2005: NOAA Ship *David Starr Jordan***  
**Weekly Science Report – Leg 3**  
31 August 2005  
Susan Chivers – Cruise Leader

**SCIENCE SUMMARY: 25 – 31 August 2005**

At the beginning of this week, we were surveying on a westward track heading farther offshore to the edge of the study area 300 nm off the coast of Oregon. As we went, we wondered what we would find out there, and when and where we would sight our first dolphins. This week's survey track kept us offshore surveying mostly southwards between 200 and 300nm offshore of Oregon and northern California.

Like the week before last, our list of sightings was dominated by large whales: fin, blue and sperm whales, but we also recorded several dolphin herds. During our sightings of large whales, we had several great opportunities to photograph both the fin and blue whales from the ship, and one particularly good opportunity to see the beautiful coloration pattern of a fin whale up close, next to the bow of the ship. One of many excellent photographs taken is included with the photographers report (please see below). Photos of the blue whales were also taken, and sonobouys were deployed in an attempt to record each of the two blue whales we sighted. The blue whales were absolutely silent, but lots of sperm whale clicks were heard. The sperm whales must have been far away because we never saw one. The single sighting of a sperm whale we recorded this week was of a singleton animal that we saw not in conjunction with any of our other sightings. This sperm whale was too difficult to approach for sampling, so we were unable to document the sighting.

There were three sightings of dolphins recorded this week. Our first was of Risso's dolphins out on the edge of our survey grid, 300nm off the coast of Oregon. The second and third sightings were of short-beaked common dolphins. These sightings were made approximately 260nm offshore of northern California. We have to confess that these sightings were made only when the animals were on our bow as we were in the midst of a large storm during which we had only a recorder on the flying bridge keeping one eye on the weather and the other looking for marine mammals that may pass by near the ship.

Like the marine mammals, bird density was also low and relatively few bird sightings were recorded. However, what we did see was interesting and included nearly daily sightings of Red-tailed Tropicbirds, Solander's Petrel and several murrelet species. Please read the "Bird Buzz" below, which includes a photograph taken during the first of our Red-tailed Tropicbird sightings.

As I write this report, we are in day 3 of high winds and high seas. The winds and seas are simply too high to look for marine mammals and consequently, we have been 'off effort.' We are looking forward to conditions a little bit more like we had at the beginning of this week... calm winds and calm seas with plenty of sunshine and animals to see. We'll let you know what we find next week.

# Sightings and Effort Summary for Marine Mammals

Date	Start/Stop Time	Position	Total Distance	Avg. Beaufort
082505	0648	N44:11.46 W128:10.43	85.3 nmi	4.9
	2019	N44:42.20 W130:56.81		
082605	0701	N44:30.58 W129:47.51	103.8 nmi	2.7
	1949	N42:44.19 W130:25.86		
082705	0708	N41:41.23 W130:47.17	95.1 nmi	3.0
	2008	N40:14.93 W130:41.72		
082805	1047	N40:06.84 W130:00.38	67.4 nmi	3.8
	2012	N39:47.48 W128:23.05		
082905	0720	N40:00.62 W129:40.02	25.2 nmi	5.8
	1907	N38:34.62 W129:53.78		
083005			0.0 nmi	6.0+
083105			0.0 nmi	6.0+

CODE	SPECIES	WEEKLY TOTAL#	CSCAPE TOTAL#
005	Unidentified common dolphin	-	1
017	Short-beaked common dolphin	2	14
018	Bottlenose dolphin	-	4
021	Risso's dolphin	1	52
022	Pacific white-sided dolphin	-	88
027	Northern right whale dolphin	-	26
037	Killer whale	-	9
040	Harbor porpoise	-	76
044	Dall's porpoise	-	140
046	Sperm whale	1	17
049	Unidentified beaked whale	1	2
051	Mesoplodon sp.	-	4
061	Cuvier's beaked whale	1	3
063	Baird's beaked whale	1	3
069	gray whale	-	2
070	Unidentified rorqual	5	15
071	Minke whale	-	7
074	Fin whale	5	41
075	Blue whale	2	36
076	humpback whale	-	364
077	unid. dolphin	-	36
078	unid. medium dolphin	-	1
078	unid. small whale	-	3
079	unid. large whale	-	39
096	unid. cetacean	-	2
	<b>TOTAL</b>	<b>19</b>	<b>986</b>

Note: Pinnipeds not included; mixed groups are counted once for each species.

### **Biopsies (Gary Friedrichsen, Laura Morse, Holly Fearnbach)**

<u>Species</u>	<u>Weekly</u>	<u>CSCAPE Total</u>
Humpback whale	-	18
Baird's beaked whale	-	2
Blue whale	-	7
Fin whale	-	1
Sperm whale	-	11
Short-beaked common dolphin	-	1
Pacific white-sided dolphin	-	21
Northern right whale dolphin	-	6
Dall's porpoise	-	3
Killer whale	-	5
Risso's dolphin	-	4
<b>GRAND TOTAL</b>	<b>0</b>	<b>79</b>

### **Photo-Project (Annie Douglas, Holly Fearnbach, Cornelia Oedekoven)**

After the rush and excitement of last week's killer whale and Berardius encounters, the lives of CSCAPE photographers on board the DSJ calmed down. We continue to lug the cameras up to the flying bridge every morning, but with our offshore position and rough weather it has become more of an act of faith than real expectation of photographing a marine mammal. Downloading photos at night has become an exercise of bird identification, rather than hours of labeling and fluke or dorsal fin comparisons. A Red-tailed Tropicbird was worth 137 photos, and flock of Cook's Petrels deserved another 50 images. Susan Chivers picked up the camera a couple times and captured three tropicbirds hovering over the ship. This was also a week where one hears the comment "hindsight is 20/20" more than once. Our first lesson learned was that if you have a blue whale 200nm off of Oregon, take a photo BEFORE you launch the small boat. We sighted a blue whale in the aforementioned location, and we reacted with lightening speed to get the small boat launched, loaded up, clear of the DSJ, and after the whale. The observers that remained on the flying bridge to sight the whale for us said that the whale's behavior change was practically instantaneous with the small boat hitting the water. Boat goes into water, and whale begins lunging away over the horizon, bursting out of the ocean like a startled blue submarine then slamming down in a wall of water. The small boat kept up for a few minutes, but it was very clear that we were not a welcome presence in this whale's environment. What exactly triggered the startle reaction we can only guess, but the next blue whale we sighted we tried a more subtle approach, and ended up with some lovely photographs.

<u>Species</u>	<u>Weekly</u>	<u>CSCAPE Total</u>
Humpback whale IDs	-	86
Blue whale IDs	1	29
Fin whale IDs	1	17
Sperm whale IDs	-	2
Killer whale IDs	-	61
Baird's beaked whales*	-	2
Short-beaked common dolphins*	1	6
Bottlenose dolphins*	-	1

Northern right whale dolphins*	-	7
Pacific white-sided dolphins*	-	13
Risso's dolphins*	1	10
Dall's porpoise*	-	2
*number of groups photographed		



Fin Whale by Cornelia Oedekoven

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### **Bird Buzz (Scott Mills, Thomas Staudt)**

Virtually the entire week was spent more than 200 nm off the coast, where species diversity and numbers of bird sightings were quite low. Number of bird species seen per day ranged from 8 to 13 and the number of birds recorded in or near the survey area was fewer than 60 every day except two (sightings of common birds far away not included). Despite several days of high winds, which reduced effort on some days, several notable sightings were made. We had a Red-tailed Tropicbird about 250 miles off the Oregon coast on Friday the 26<sup>th</sup>. Since then, we have recorded this species daily with 14 sightings in six days. Many of them have flown directly over the ship affording spectacular views. On the 28<sup>th</sup>, we had more than 21 Cook's Petrel sightings, some in groups of up to seven birds and one within 200 nm of the California coast. Though missed by the birders, a Solander's Petrel flew directly over the boat on the 30<sup>th</sup> and was identified by Gary Friedrichsen. Three pairs of murrelets were seen on the 28<sup>th</sup> – one Xantus's scrippsi, one Xantus's hypoleucus, and one Xantus's/Craveri's. The 30<sup>th</sup> was albatross day, when 24 of the 42 recorded birds were Black-footed Albatross. Other unusual sightings included a Semipalmated Plover and a Brown-headed Cowbird, both well over 200 nm from the nearest land.



Red-tailed tropic bird by Laura Morse

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### **Oceanographic Operations (Candice Hall, Liz Zele)**

For this the final week of August, everything oceanographic was in full swing and running smoothly. Big swells and winds gusting over 30km/hr have reduced our operations over the last two days but we are hopeful for some relief tomorrow. Bongo efforts were attempted on the 30<sup>th</sup> but a large wave washing over the extendable bucket before it was even deployed put paid to that! This morning found us peering out with big eyes from the wet lab at a wave washed deck to determine the viability of a morning CTD. However, another large wave decided against that for us.

Since leaving you last week we have sailed through perfect weather onto a rollercoaster ride, resulting in a constant attempt to lash gear down while trying to walk in a relatively forward direction. Throughout these relative extremes the water temperature has remained around 18°C (64 – 66°F), with the surface salinity varying between 32 and 33 PSUs. Our Bongo samples have been miniscule again, containing the usual participants as observed during our microscope sessions.

Many of us had previously held nightly vigils in the hope of seeing the long awaited Mars up close but clouds concealed its presence in the lead up to the 27<sup>th</sup>. However, 00h00 Monday morning saw Liz and I battling our way to the Flying Bridge to scope out the planet with the big eyes. Once up there we were dazzled by the amount of stars visible from out here. As always, it was a humbling experience. Mars was glorious in its brightness, as my inexperienced big eyes needed only to use its shear light to track it to its location in the ‘moving’ sky. In all it was definitely worth missing out on that hour of sleep.

Our parting thought for the week: ‘Star light, star bright, I wonder which stars we’ll see tonight’ (adapted from somewhere).

Date	CTD's	Bongo tows	XBT's	Comments
08/25	1	1	4	
08/26	2	1	4	
08/27	1	1	4	
08/28	2	1	4	
08/29	1	1	4	
08/30	1	0	2	Weather reduced operations.
08/31	0	0	1	Weather reduced operations and stopped trackline effort.

### **Squeakly Report (Liz Zele)**

Sadly, I have no real exciting update to report this week. We managed to throw a sonobuoy here or there at blue whales, only to hear the regular chatter of unseen sperm whales (who never decided to make their mark on our sightings list). We did manage to capture brief recordings of *Delphinus delphis* on the bow, before their interests took them elsewhere. Other than that, we hope to capture some exciting squeaks next week to end Leg 3 on the right note!